STATE ELECTRICITY COMMISSION OF VICTORIA RAIL TRANSPORT : YALLOURN OPEN CUT

HISTORICAL

Brown coal was discovered at Morwell North about 1879 and by 1889 the Great Morwell Coal Mining Company had commenced operations opening up an open cut mine on the north bank of the Latrobe River.

In 1894, a briquetting plant was installed by Austral Otis Engineering Company with a capacity of 30 tons per 10 hour day. Until it was destroyed by a bush fire, this plant produced 4000 tons of briquettes.

The company was in liquidation by 1889 and operation of the mine was then taken over by the Victorian Mines Department. In 1908, Mr C H Merz recommended erection of a 15 MW brown coal fired power station in the Latrobe Valley.

In April 1917, the Institute of Victorian Industry recommended Government action to install a 50 MW power plant at Morwell. The Government appointed a Brown Coal Advisory Committee comprising Messrs H Herman (Chairman), F W Clements, H R Harper and W Stone to investigate the proposal.

In September 1917, they reported recommending the establishment of a brown coal fired power station near Morwell.

In 1917, the Mines Department commenced operation of the Morwell North mine to provide Melbourne industry with coal. This coal was transported to Melbourne by the Victorian railways using a spur line installed for the Great Morwell Coal Mining Company. This continued until 1924 when the mine operation was transferred to the State Electricity Commission.

The State Electricity Commission was formed by the Victorian Government in 1921 to develop the brown coal reserves in the Latrobe Valley for power generation. The area selected for development of the open cut was on the south bank of the Latrobe River opposite the original coal mine. The SEC named this mine and the associated power station and township area Yallourn.

TRANSPORT

The Great Morwell Coal Mining Company mine was connected to the Victorian Railways system by a spur line in 1890. This line was used for the transport of coal and briquettes out from the early mine and was also utilised by the SEC for the transport into the area of construction materials. When operations began, the SEC installed a variety of smaller gauge tram tracks and rail lines to cater for specific aspects of operations. Some of these lines were used for very short periods and records of them are sketchy or incomplete:

OVERBURDEN

First overburden removal in 1920 was by two teams of horses using ploughs and six teams using scoops. On 18 February 9121 a Ruston Proctor shovel commenced excavation loading direct to horse drawn drays of 2 cubic yard capacity. Overburden transport (1922) was by 14 horse drawn side tipping 4 cubic yard trucks mounted on tram tracks of 3 ft 6 inch gauge. This system was supplemented by horse drawn rear tipping drays of up to 2 cubic yard capacity. By the middle of 1922, the horse drawn rail mounted trucks had been replaced by conveyors and a rail mounted boom stacker on the overburden dump.

In 1926, steam locomotices previously used in coal transport were transferred to overburden transport. Three additional locomotives were received early in 1927 together with forty 5 cubic yard trucks. These all operated on the 3 foot 6 inch track.

The 90 cm electric rail system was extended to overburden operation in 1928 using 20 cubic yard side dumping trucks. Towards the end of 1928, twenty 5 cubic yard trucks formerly used with the steam locomotives on the 3 foot 6 inch track were converted to 90 cm gauge for use with the electric locomotives. Rail transport of overburden in the Yallourn area ceased on 19 April 1963.

COAL

Coal for the temporary power station was transported from the original mine by horse drawn trucks or drays. Transport of coal from the Yallourn Open Cut to the Yallourn W Power Station was by ropeway hauled trucks. The ropeway was supplied by Mead-Morrison Manufacturing Company, USA, and the trucks used were of wooden construction, gable bottomed, 160 cubic foot capacity mounted on two four wheeled bogies and running on 20 pound rail tracks of 20½ inch gauge.

Initially the shovels loaded coal direct into the ropeway trucks but as the open cut expanded transport to the ropeway skips was by horse drawn drays and later by horse drawn side dumping trucks of 3, $3\frac{1}{2}$ and 4 cubic yard capacities mounted on a 3 foot 6 inch track.

In January 1925, two steam locomotives were installed on the 3 foot 6 inch track and work commenced on a 3 shiftbasis with horses being used on the day shift only. With the arrival of another locomotive in April 1925, horses were taken off shift work.

Due to fires in the open cut in December 1925, steam locomotives were temporarily withdrawn from service and some horse transport re-introduced for the summer months. This temporary transport operated using side tipping skips mounted on 12 and 18 inch tracks.

From June 1924 to June 1926, crushed coal for the power station from the Old Open Cut was loaded into 11 ton trucks on the Victorian State Railway system at the open cut and unloaded by hand shovelling under the power station telpher.

From June 1926 to August 1927, the trucks were unloaded by hand shovelling onto a conveyor and hence via the screen house and No 3 ropeway to the power station.

In February 1927, the first three electric locomotives were received together with ten 20 ton side tipping coal trucks. These units were installed on a new 90 cm track and replaced other forms of coal transport to the ropeway.

Subsequent purchases of rail trucks were of saddle bottom type trucks. In 1952, conversion of 20 ton side tipping coal trucks to 26 ton saddle bottom coal trucks commenced using chasis from the 20 ton coal and 20 cu yd overburden trucks.

RAIL TRANSPORT

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Rail transport of coal within the Yallourn Open Cut was extended as the open cut expanded. Replacement of the rail system with a conveyor system commenced in 1981 and is still continuing with the aim to phase out rail transport on the coal faces by 1984.

The 5 foot 3 inch standard Victorian Railways track which had been installed for the original mine was extended into the new Yallourn works area and a type DDE steam locomotive was purchased second hand from the Victorian Railways for shunting purposes in the stores area.

Rail transport of coal was extended outside the Yallourn area in June 1955 with the construction of a 90 cm rail line to the new Morwell project area. This 20.1 kilometre rail link is used for the transport of briquetting coal from the Yallourn Open Cut to the Morwell Briquette Factory. In the Morwell area, 90 cm rail transport of overburden was used for the first few years of operation being replaced by a conveyor system on 9 February 1968.

1. STEAM LOCOMOTIVES

1.1 Nos 3, 5, 12

Manufactured by Huddswell-Clark Co Ltd, Leeds, and purchased second hand from Wallaroo and Moonta Mining Co, through Hampton and Wheeler.

1.2 Nos 69, 70, 71

Purchased new through Knox, Schlapp and Co. Cylinders 10" x 16", 0/4.0 tank type boiler. $8'1\frac{1}{2}"$ long x 2'9" diameter. Working pressure 160 pounds per square inch. Wheel diameter 2'9 $\frac{1}{2}"$, wheel base 5'6". Tank capacity 375 gallons. Fuel capacity 20 cubic feet. Heating surface 287.8 square feet. Grate area 7.775 square feet. Loaded weight 16 tons, 9 cwt. Track width 3 foot 6 inches.

Delivery dates - Nos 3, 5, 12 - January to April 1925 Nos 69, 70, 71 - January 1927

1.3 Type DDE purchased second hand from the Victorian Railways. Track width 5 foot 3 inches. The Victorian Railways purchased 20 of these engines between 1908-1913. They were a 4-6-2 type tank engine which after renumbering in 1929 became known as the D4 class.

2 PETROL LOCOMOTIVES

Two Malcolm Moore units powered by Ford V8 petrol engines were used at Yallourn Briquette Factory hauling ash disposal trucks. Motors 32 hp at 1200 RPM.

Total weight 4 ton, 9 cwt. Track width 3 foot 6 inches.

3 DIESEL LOCOMOTIVES

3.1 No 12, 13, 14 SEC Unit Nos

John Fowler & Co (Leeds) Ltd. 150 hp McLaren Ricardo MR6 engines. Type MK1. Manufactured 1951. Unit Serial Nos 4210049, 50, 51, 90 cm track.

3.2 SEC Unit No 26F8

Malcolm Moore Pty Ltd diesel locomotive. 100 hp Gardner diesel - manufactured with co-operation of Drewry Car Co Ltd (London). Model 10-102, Sn 36. Purchased 1962, 90 cm track.

ELECTRIC LOCOMOTIVES

The 90 cm rail system operates on a 1100 volt DC supply system with power supplied to the locomotives from an overhead trolly wire from 3.4 to 4.4 metres above the rail tracks.

46 ton locomotives - Henschel bodies with Siemens -

Electrical equipment -

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Nos 21-23 in service 1927 Nos 24-27 in service 1928

46 ton locomotives - Kelly & Lewis bodies with AGE -

Electrical equipment -

Nos 28-31 in service 1929 No 32 in service 1934 Nos 33-34 in service 1937 Nos 35-37 in service 1942 No 38 in service 1943 Nos 39-40 in service 1946 Nos 41-44 in service 1952

60 ton locomotives - Henschel bodies with Siemens -

Electrical equipment -

Nos 101-103 in service 1950 No 104 in service 1951 Nos 105-113 in service 1954

62 ton locomotives - Siemens bodies and equipment -

Nos 121-123 in service 1963

62 ton locomotives - Hitachi bodies and equipment -

Nos 124-125 in service 1968

5 OVERBURDEN TRUCKS

5.1 3 Cubic Yard, 3 foot 6 inch Gauge Tracks

An unkown number were in use with horse transport of coal and overburden from the earliest operation of the Yallourn Open Cut.

In 1935, it is recorded that 22 were still in service with the steam locomotives in the Yallourn North Open Cut.

5.2 5 cubic yard, 3 foot 6 inch Gauge Track

Forty side tipping trucks were in service in December 1925 and used with the steam locomotives in the coal and overburden systems. (1928 twenty converted to 90 cm track.)

5.3 20 cubic yard site tipping overburden trucks manufactured by Glaser & Pflaum were delivered as follows:

No 401-436 in 1928 No 437-448 in 1941-42 No 449-460 in 1942-43 No 461-472 in 1947-48 No 473-490 in 1954-55

During the period September 1960 to September 1963, all except Nos 414, 420, 432, 454 were scrapped or converted to 26 ton saddle bottom coal trucks. Track width 90 cm.

5.4 32 cubic yard, 90 cm Side Tipping Overburden Trucks

Forty trucks were delivered for use at Morwell Open Cut (1951) and in July 1953 seven were transferred to Yallourn for a trial period. The other 33 were later also transferred to Yallourn. An additional 30 were ordered specifically for Yallourn.

Truck Nos 501-570 inclusive. Delivery dates 1951-1954.

After the Yallourn overburden system was converted to conveyor transport in 1963, all trucks were transferred to Morwell. When the Morwell overburden system was converted to conveyors in 1969, these trucks were sold to "Warragul Metals" who cut the trucks up on site and shipped all material overseas. Some bogies were retained for use on the 33 ton coal trucks as they were identical.

6 SPECIAL TRUCKS AND WAGONS

6.1 Ballast Wagons

In 1954, the SEC workshops manufactured ten (10) five cubic yard trucks.

6.2 Special Wagons

At various times flat top wagons have been manufactured in the SEC workshop utilising bogies from old trucks.

COAL TRUCKS

7.1

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20 ton Saddle Bottom Coal Trucks

Nos	301-316	Krupps	1927
Nos	317-326	Glaser & Pflaum	1928
Nos	327-332	Foreman & Co	1930
Nos	333-338	Thompsons Pty Ltd	1933
Nos	339-344		1934
Nos	34-356		1939
Nos	357-368	"	1944/45
Nos	369-380	11 9	1950/51

Total purchased - 80.

7.2 33 ton Saddle Bottom Coal Trucks

Manufactured by Tulloch Ltd (Aust). Forty two were ordered in 1950 for use at Morwell Open Cut and fifty were ordered in 1951 for use at Yallourn. All were subsequently used at Yallourn and on the interconnecting railway. Deliveries were as follows:

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Nos	707, 709-715, 717-722	1	953
Nos	705, 708, 716, 732-731	1	954
Nos	701-704, 706, 732-748	1	955
Nos	749-763	1	956
Nos	764-776	1	957
Vos	777-792	1	0.7.0
-		1	000

Total number purchased - 92.

7.3 26 ton Saddle Bottom Coal Trucks

Seventy five trucks previously Glaser and Pflaum side tipping 20 cubic yard overburden trucks were converted to 26 ton saddle bottom coal trucks in the SEC workshops at Yallourn in 1960-1963.

Fifteen trucks Nos 305, 308, 312, 314, 315, 324, 325, 331, 335, 338, 339, 340, 341, 353, 362 were converted from 20 ton capacity units in the SEC workshops at Yallourn in 1965.

Total number converted - 90.

Identification numbers 601-689 inclusive, with orange lateral stripe on the side to distinguish them from 33 ton trucks.







STATE ELECTRICITY COMMISSION OF VICTORIA







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Tore wt. 16.5 Tons. Poylood. 19.5 Tons. Max axle load. 9 Tons.

Into Service 1928 Nº 401 - 436. 1941-42 Nº 437-448. 1942-43 Nº 449-460. 1947-48. Nº 461-472. 1954-55. Nº 473-490. All trucks excluding the following have been converted to 26 Ton coal trucks or scrapped during the period Sept. 1960 to Sept. 1963. Thuck Nº 414,420,432,454 one retained and used for a maintenance vehicles under dredgers, etc.

Total Nº in group - 4





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OUTLINE	DIAGRAM

-MI 28 8-3

C.W.L

6-6-67 A REDRAWN

Chief Drattsman Chief Engineer - Fuel

H.W.Bwern

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Approved

Traced

Checked CWL. 3-5-67

